

A NEW SPECIES OF THE GENUS *FANNIA* ROBINEAU-DESVOIDY FROM CHINA (DIPTER, FANNIIDAE)

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Abstract *Fannia kelaenohaltera* sp. nov. of genus *Fannia* Robineau-Desvoidy (Diptera, Fanniidae) from China and the supplementary description of female of the *Fannia grahami* Chilkott 1961 is described

Key words Dipter, Fanniidae, *Fannia*, new species, supplementary description

Fannia was established by scholar Robineau-Desvoidy in 1830. This genus is worldwide distribution, primarily in Holarctic realm. So far 320 species of *Fannia* are known in the world, including 140 species from China. While checking a series of Fanniidae specimens from China, we found one new species collected in Xinjiang Tamar Peak, and found a female specimen of *Fannia grahami* Chilkott 1961 in the west of Sichuan and the northwest of Yunnan. All specimens are deposited in the Institute of Entomology, Shenyang Normal University.

Fannia kelaenohaltera sp. nov. (Figs 1–3)

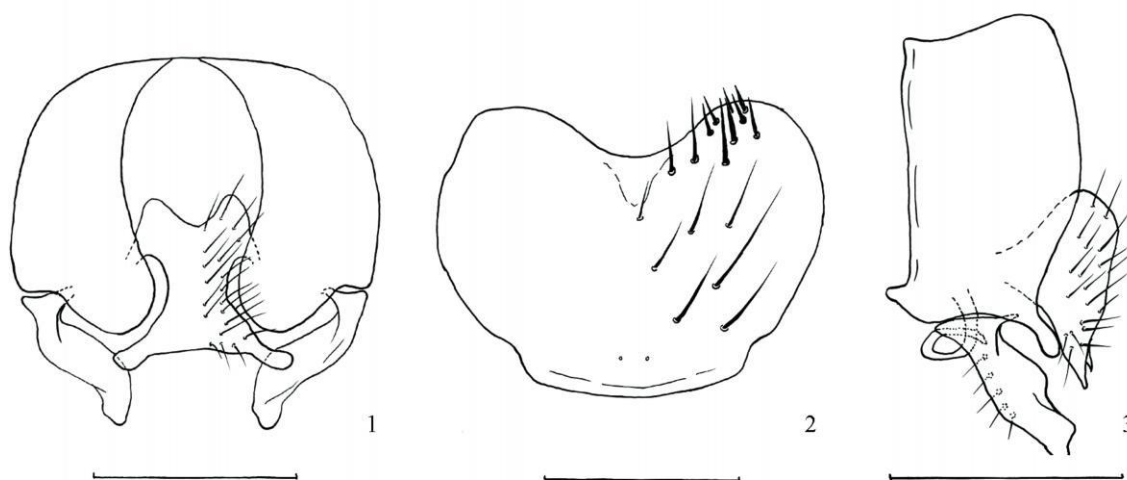
Male. Body length 4.0–4.2 mm.

Head. Eye with sparse and short hairs, nearly bare; facets slightly enlarged on anterior margin in upper part; postocular setae in one row; setae fine and long, the longest postocular setae 3/4 of ocellar setae in vertex; short postoccipital setae in one row behind postocular in upper vertex; fronto-orbital plate and parafacial with dense grayish white pruinosity; the median part of frons about as wide as or slightly narrower than the distance between two posterior ocelli; slightly narrower than width of first flagellomere; frontal vitta dark with thin grey pruinosity; the width of narrowest point equal to one side of fronto-orbital; frontal setae 5 or 7, situated in lower of ocellar triangle; parafacial bare, about as wide as 3/5 of first flagellomere in median part. Antenna black; first flagellomere 2 × longer than wide. Arista dark; arisal base swollen; the longest hair about as long as arisal base. Epistoma not projecting to vibrissal angle; vibrissal angle behind frontal angle in profile; subvibrissal setae in one row; gena and genal dilation with black hairs; upper margin of gena without upcurved setae. Proboscis short and thick; labella large; prementum with light yellow grey pruinosity; 2 × longer than wide; palpus black; claviform as long as prementum.

Thorax. Black in ground colour; scutum with dense yellow-grey pruinosity; without stripes; presutural acrostichal seta biserial; only prescutellar pairs slightly stout; the distance between acrostichal seta rows equal to or narrower than 1/2 distance between acrostichal seta row and dorsocentral seta row; dorsocentral seta 2 + 3; intra-alar seta 0 + 2; prealar seta 2; the anterior one about 1/2 of the length of posterior notopleural seta; notopleuron without seta; proepisternal setae 2; proepimeral seta 1; adjacent part with 1 fine hair; basisternum, proepisternum, anepimeron, meron and katopimeron bare; katopisternal setae 1:1; katopisternum without ventral spines; anterior spiracles yellowish; posterior ones brown; large calypters yellow; the lower one linear; not projecting beyond the upper one.

Wing. Light brownish; veins dark-brown; wing base yellow; tegula black; basicosta brownish yellow; costal spine inconspicuous; vein Sc not curving bow-like; node of Rs bare on ventral and dorsal surfaces; vein M1 + 2 straight; veins R4 + 5 and M1 + 2 parallel to each other distally; vein Cu1 + an1 short; crossvein rm slightly thick; crossvein m-m projecting forward; crossveins without obvious cloud; haltere dark brownish.

Legs. Entirely black; fore coxa without ventral spines; fore tibia without anterodorsal seta and median posterior seta; fore first tarsomere with 1–2 longish setae on ventral surface; fore first tarsomere as long as 2/5 of fore tibia; fore tarsomere without light hairs on ventral surface; mid coxa without any hooked spines or spine-like setae on lower and outer margins; mid femur with long and sparse anteroventral seta rows in basal half becoming gradually denser and shorter towards apex; anteroventral seta row comb-like in distal part; posteroventral setae biserial in middle; 1 long and fine posterior seta row in upper of posteroventral setae; mid tibia not thicker than other



Figs 1–3 *Fannia kekonoaltem* sp. nov. (male holotype). 1. Terminalia, dorsal view. 2. Stemite 5, ventral view. 3. Terminalia, lateral view. Scale bars 1, 3= 0.25 mm, 2= 0.23 mm.

thia, mid thia slightly swollen in distal half numerous slender hairs on ventral surface, the longest one as wide as $3/5$ mid thia, with 1 anterodorsal seta and 1 posterodorsal seta; mid first tarsomere without basal tooth-like spines on ventral surface; hind coxa bare on posterior surface, with stout anteroventral seta row, only 3 or 4 long anteroventral setae in distal half without posteroventral seta row, aberrantly with 2 fine and long bristles at base of posteroventral; hind thia with 1 anteroventral seta, 1 anterodorsal seta, 1 median dorsal seta.

Abdomen Oval, with grayish yellow pruinosity, syntergite 1+2 to tergite 4 each with 1 triangular mark in median, tergite 5 with dark median stripe; stemite 1 bare.

Holotype ♂, China, Xinjiang Tomor Peak, alt 2 600 m, 22 June 1977, coll HAN Heng-Yin; Paratypes 2 ♂♂, China, Xinjiang Tomor Peak, alt 2 600 m, 22 June 1977, coll HAN Heng-Yin.

Etymology. This specific name is derived from *kekono* (= *kekono*) and *halter* (= *halteres*), reflecting the marks of the male halter.

Remarks. This new species is a member of *Fannia serena*-subgroup which belong to *Fannia serena*-group; it resembles *F. serena* (Fanén 1825), but can be distinguished from the latter by the calypter light pale yellow, haltere dark brownish, hind femur with anteroventral seta row complete and stout first flagellomere $1.5 \times$ longer than wide; abdomen with grayish yellow pruinosity, the width of stemite 5 wider than long and narrower at base.

Fannia grahami **Chillcott 1961** (Figs 4–5)

Fannia grahami Chillcott 1961b: 83, figs 1, 7. Holotype male, USNM.

Type locality: Yellow Dragon Gorge near Songpan, Sichuan, China. Distr. - China (Sichuan).

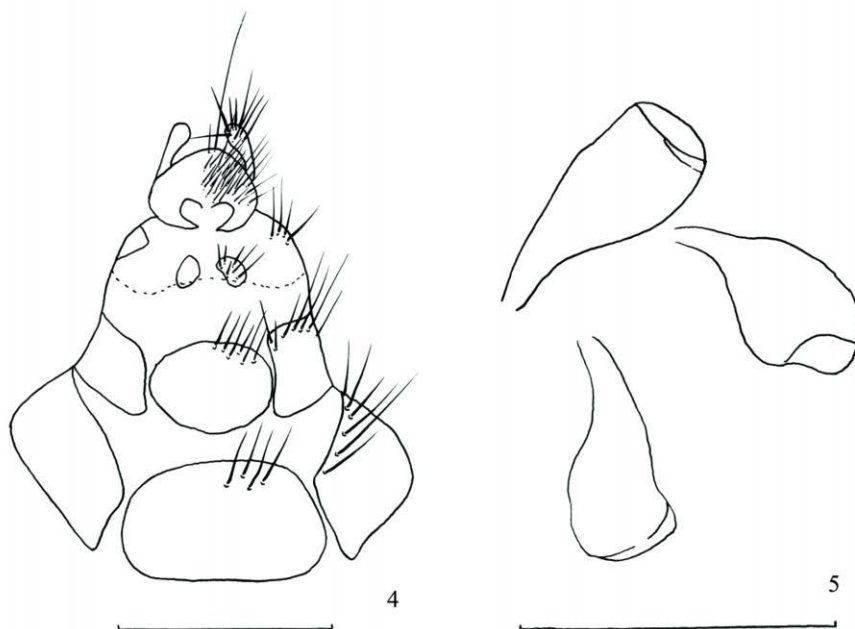
Fannia grahami Pont 1977: 448 (cat.); Feng et al 1991: 19 (cat, Distr. - Sichuan); Xue and Wang 1998: 817 (key), 824 (cat, Distr. - Sichuan); Wang and Xue 2002: 56 (cat, Distr. -

Sichuan); Su and Wang 2004a: 111 (cat, Distr. - Sichuan); Xue and Wang 2006: 134 (cat, Distr. - Sichuan).

Male. Body length 5–6 mm.

Head. Eye with sparse and short hairs; facets not enlarged on anterior margin in upper part; thick and short postocular setae in one row, postocular setae irregularly placed; occipital setae in one row; fronto-orbital plate with brown-gray pruinosity; the median part of frons about as wide as $1/2$ of head; frontal vitta black, $1.8 \times$ wider than fronto-orbital plate; frontal triangle situated in upper $2/5$ of frons; fronto-orbital plate slightly projecting; inner margin of frontal vitta; frontal seta 10, lower 2 setae long and the upper margin reaching lower anterior ocellus; orbital seta 2, 1 upper and 1 lower; orbital seta nearer to outer margin of fronto-orbital plate; outer frontal seta with 2 row of short setae and lower margin of seta reaching base of antenna; parafacial bare, with grayish yellow pruinosity, slightly narrow, about as wide as $2/3 - 1/5$ of first flagellomere in median part; antenna black; first flagellomere $1.5 \times$ as long as wide; arista ciliate; the longest hair shorter than $1/2$ width of arisal base; epistoma not projecting beyond vibrissal angle; vibrissal angle behind frontal angle in profile; subvibrissal setula in one row, upper and outer margin with 1–2 row short setae; proboscis short and stout; labella large; prementum with greyish yellow pruinosity, $1.5 \times$ longer than wide; palpus black, claviform, slightly longer than prementum.

Thorax. Black in ground colour; notum with dense brown pruinosity, with four distinct dark longitudinal stripes; presutural acrostichal bristle biserial; prosutural acrostichal bristle in four rows and 2 rows in outside slightly long; only presutural prescutellar pairs stout; the distance between acrostichal seta rows equal or slightly wider than the distance between acrostichal seta row and dorsocentral



Figs 4– 5 *Fannia grahami* Chillcott 1961 (female). 1. Ovipositor, ventral view. 2. Spermatheca. Scale bars 4 = 0.4 mm, 5 = 0.25 mm.

seta row; dorsocentral seta 2 + 3 intra-alar seta 0 + 2, prealar seta 2, the anterior one about 1/2 of the length of posterior notopleural setae; notopleuron without setae; basisternum, proepisternum, anepimeron, meron and katepimeron bare; katepisternal seta 1: 1, katepisternum without ventral spines; proepisternal seta 2, proepimeral seta 1, adjacent part with 4 or 6 fine hairs; anterior spiracles light yellowish and small, posterior ones brown, large calypters yellow, the lower one slightly projecting beyond the upper one.

Wing Transparent; veins dark brown, tegula black, basicosta dark brown, costal spine not projecting, vein Sc not curving bow-like, node of Rs bare on ventral and dorsal surfaces; vein M1 + 2 straight and close to R4 + 5 distally; vein $cu_1 + an_1$ short, crossvein $r-m$ slightly thick, crossveins straight, crossveins without obvious cloud, haltere yellow.

Leg Black, except base of fore tibia yellow; fore coxa without short anterior spines on ventral surface; fore femur with *pv* row, becoming fine in basal and long in distal; fore tibia without median posterior bristle and anterodorsal bristle; fore first tarsomere with 1 or 2 basal setae; mid coxa without any hooked spines or spine-like setae on ventral surface; mid femur with long *av* and *pv* rows in basal 2/5 and semiprostrate in distal 2/5; *pv* row setae-like and with long and fine *p* in 1 row, 4 or 5 stout in apex; mid tibiae becoming stout in apex, without slender hairs on ventral surface; with 1 anterodorsal bristle and 1 posterodorsal bristle in distal half; mid first tarsomere without basal tooth-like spines on ventral surface; hind coxa with 1 long seta on posterior surface; hind femur

with short *av* row in basal 2/3, long *av* in distal 1/3; hind tibia with 2 – 3 anteroventral bristles, 1 row anterodorsal bristle on whole tibia; 1 median dorsal bristle.

Abdomen Oval, black in ground color, its basal half wide, slightly narrow in distal half with dark brown pruinosity, slightly shining without distinct stripes; bristles in tergite short and dense, except tergite 5 with long bristles; sternite 1 bare and wide; ovipositor wide and short; spermatheca 3.

Specimens examined 2 ♀♀, China, Yunnan, Baima Snowy Mountain, alt 3 500 – 4 000 m, 30 May 2007, coll WANG Dan-Dan; 3 ♀♀, China, Yunnan, Baima Snowy Mountain, alt 3 500 – 4 000 m, 30 May 2007, coll ZHANG Lu; 1 ♀, China, Yunnan, Baima Snowy Mountain, alt 3 500 – 4 000 m, 30 May 2007, coll DONG Wen-Xiu; 1 ♀, China, Yunnan, Yulong Snowy Mountain, yak level ground, alt 3 400 m, 23 May 2007, coll WANG Dan-Dan.

The male of *Fannia grahami* Chillcott 1961 was collected from Yellow Dragon Gorge of Songpan in Sichuan Province by Graham, D. C. and the type specimens are now stored in the United States National Museum, Washington (NO. 64541). They did not find the female at that time while checking a series of Fanniidae specimens in the collections of the west of Sichuan and the west north of Yunnan the author found 24 ♂♂, on the Baima Snowy mountain and Yulong Snowy Mountain found 7 ♀♀, all specimens are deposited in the Institute of Entomology, Shenyang Normal University.

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REFERENCES

- Chilkott J G. 1961a. A revision of the Nearctic species of Fanniinae (Diptera: Muscidae). *The Canadian Entomologist*, 14: 1–295.
- Chilkott J G. 1961b. Ten new species of Fanniinae R.-D. (Diptera: Muscidae) from the Palearctic and Oriental Regions. *The Canadian Entomologist*, 93: 81–92.
- Fañén C F. 1825. Monographia Muscidum Sueciae. Part VIII: 73–80. Berlingianis Lundae.
- Feng Y and Xue W-Q. 2006. Six new species of genus Fanniinae R.-D. from Sichuan, China (Diptera: Fanniidae). *Acta Zootaxonomica Sinica*, 31 (1): 215–223. [动物分类学报]
- Feng Y, Liu H-J, Tang Z-Q, Huang M-Z and Liu W-M. 1991. The name of Calypratae in Sichuan Province, China. *Interior Materials*, 1–54.
- Hennig W. 1955-1964. Muscidae. In: Lindner E (ed.), Die Fliegen der Palearktischen Region. Schweizerbart, Stuttgart. 63b: 8–94 (110 pp).
- Hennig W. 1965. Vorarbeiten zu einem phylogenetischen System der Muscidae (Diptera: Cyclorrhapha). *Stuttgarter Beiträge zur Naturkunde*, 141: 1–100.
- Nishida K. 1994. The Fanniidae from Nepal (Diptera). *Jap. J. Sanit. Zool.*, 45: 81–89.
- Pont A C. 1977. Family Fanniidae. In: Delfinado M. D. and Hardy D. E. (eds), A Catalog of Diptera of the Oriental Region, Volume III Suborder Cyclorrhapha (excluding Division Aschiza). University of Hawaii, Honolulu. pp. 447–450.
- Stein P. 1895. Die Anthomyiden-gruppe Homalomyia nebst ihren Gattungen und Arten. *Berl. Ent. Zeitsch.*, 40: 1–141.
- Su L-X and Wang M-F. 2004. The study on the genus Fanniinae in China (Diptera: Fanniidae). *Chinese Journal of Vector Biology and Control*, 15 (2): 110–112.
- Su L-X and Liu G-C. 2009. One new species and one new record species of Phthiria Enerlein (Diptera: Sphaeroceridae) from China. *Acta Zootaxonomica Sinica*, 34 (3): 475–480. [动物分类学报]
- Wang M-F and Xue W-Q. 2004. Taxonomic study on Fanniidae of China (Diptera: Cyclorrhapha). *Innovation and Development in Entomology*. Science and Technology Press of China, Beijing. pp. 56.
- Wang M-F, Li M-Y and Wang J. 2010. Two new record species of the genus Fanniinae Robineau-Desvoidy (Diptera: Fanniidae) from China. *Acta Zootaxonomica Sinica*, 35 (2): 426–428. [动物分类学报]
- Wang M-F and Liu L. 2008. A review of the serena subgroup of the Fanniinae group (Diptera: Fanniidae). *Oriental Insects*, 42: 269–284.
- Wang M-F, Zhang D, Zheng S and Zhang C-T. 2009. A review of the arborealis-subgroup of Fanniinae Robineau-Desvoidy (Diptera: Fanniidae), with descriptions of two new species from China. *Zootaxa*, 2204: 37–47.
- Wang M-F, Zhang D and Wang R-R. 2008. The mollissima-subgroup of the genus Fanniinae Robineau-Desvoidy (Diptera: Fanniidae), with descriptions of seven new species. *Insect Systematics & Evolution*, 39 (1): 87–106.
- Wang M-F, Zhang D and Wang R-R. 2008. Two new species of the genus Helina Robineau-Desvoidy (Diptera: Muscidae) from China with revised diagnosis on the Chinese species. *Annales de la Société Entomologique de France (Nouvelle Série)*, 44 (2): 139–144.
- Wang M-F, Zhang D and Xue W-Q. 2006. A review of the F. serena-subgroup of Fanniinae Robineau-Desvoidy (Diptera: Fanniidae), with the description of two new species from China. *Zootaxa*, 1162: 33–43.
- Xue W-Q and Chao G-M. 1996. Flies of China. Liaoning Science and Technology Press, Shenyang. pp. 1–2480.
- Xue W-Q and Wang M-F. 2006. Flies of the Qinghai-Xizang Plateau. Science Press, Beijing. pp. 1–336.
- Zhang C-T, Lin J-Y and Yao Z-Y. 2008. One new species and two new record species of blondelini (Diptera: Tachinidae) from China. *Acta Zootaxonomica Sinica*, 33 (3): 532–536. [动物分类学报]

中国厕蝇属一新种及川西厕蝇雌性记述 (双翅目, 厕蝇科)

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摘 要 记述了中国产厕蝇属 Fanniinae R.-D. 1 新种: 暗棒厕蝇 Fanniinae kelenohaltera sp. nov. 并与近缘种明厕蝇 Fanniinae serena (Fañén, 1825) 进行了比较鉴别其主要区别在于新种腋瓣淡黄色, 平衡棒暗褐色, 后足腹节前腹鬃列完整, 均长大, 触角第 3 节长为宽的 1.5 倍, 腹部具灰黄色粉被, 雄第 5 腹板宽大于长, 在其基部较狭等。同时对川西厕蝇 Fanniinae gnahahi Chilkott, 1961 进行了雌性补充描述。新种模式标本保

关键词 双翅目, 厕蝇科, 厕蝇属, 新种, 补充描述。

中图分类号 Q969.44

存于沈阳师范大学化学与生命科学学院昆虫标本室。

正模 ♂, 新疆托木尔峰海拔 2 600 m, 1977-06-22, 韩寅恒采。副模 2 ♂♂, 新疆托木尔峰海拔 2 600 m, 1977-06-22, 韩寅恒采。

词源: 暗棒厕蝇的名称来源于雄性平衡棒的颜色呈暗褐色的特征。